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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,004	05/01/2001	R. Shawn Childress	14518	4809

7590 09/10/2003

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EXAMINER

ROBERTSON, JEFFREY

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 09/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/847,004

Applicant(s)

CHILDRRESS ET AL.

Examiner

Jeffrey B. Robertson

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1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8 and 12 is/are rejected.
- 7) ☒ Claim(s) 6, 7 and 9-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu et al. (U.S. Patent No. 4,481,364).

Upon reviewing this reference in considering applicant's response dated 4/11/03, the examiner sets forth the following rejection.

For claim 1, in column 3, lines 8-65, Chu sets forth a reaction where a hydridoalkoxysilane is hydrosilylated with an allyl amine to form aminosilanes with a platinum catalyst. Here, Chu teaches that  $R^4$  may be methyl and that  $R^2$  and  $R^3$  are either alkyl or hydrogen. For claims 2-4, in column 3, lines 62-65, Chu teaches suitable amines, which include methallylamine and secondary amines such as allylaniline (N-phenylallylamine). The use of methallylamines results in the T group where  $u=0$ . The use of allylaniline results in secondary amino groups where  $R^1$  is a phenyl group. Note that in Example 14, column 7, lines 45-57, Chu teaches a working example using allylaniline. For claims 2 and 4, in column 3, lines 34-40, Chu teaches that the hydridoalkoxysilane includes triethoxysilane. For claims 5 and 8, in column 3, lines 66-68, Chu discloses that the ratio of silane to amine can vary from 1.5:1 to 1:1.5, which is included in the range set forth by applicant. In column 4, lines 21-23, Chu teaches that

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the amount of platinum catalyst is 10-20 parts per million, which falls within the range claimed by applicant. In column 4, lines 30-31, Chu teaches the use of soluble complexes of chloroplatinic acid. For claim 12, in column 4, lines 5-8, Chu teaches that the reaction temperature is in the range of 110° C to 210°C.

For claims 1-5, 8 and 12, Chu fails to expressly teach the use of secondary methallylamines in the reaction process. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use secondary methallylamines in the reaction, given the express teaching by Chu in column 3, lines 59-60, that R<sup>4</sup> may be a methyl group, and the use of secondary amines such as allylaniline in Example 14.

#### ***Allowable Subject Matter***

3. Claims 6, 7, and 9-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

For claims 6 and 7, Chu does not teach that the reaction is performed at atmospheric pressure. In fact in column 2, lines 53-61, Chu discloses that pressure is one of the factors that contributes to the improved process. For claim 9, since all of the reactants are added into the Parr bomb simultaneously, the secondary methallylamine cannot be added to the mixture of catalyst and hydridosilane. For claims 10 and 11, Chu does not disclose that an alcohol is added to the hydrosilylation product or that there is a purification step.

***Response to Arguments***

4. Applicant's arguments with respect to claims 1-10, and 12 have been considered but are moot in view of the new ground(s) of rejection.

The rejection set forth under §§102 or 103 over the Shiozawa reference has been withdrawn based on the examiner's realization that the 102 rejection should be withdrawn. In that regard applicant's arguments are largely moot in light of new grounds of rejection. However, applicant did address the Chu reference in the response of April 11, 2003. Specifically, applicant argues that the comparative example set forth in the instant application show that methallylamine does not react with hydridosilane in the presence of a platinum catalyst, where the reaction performed under the same conditions with rhodium and secondary methallylamine goes to completion. In response, the examiner notes that between the example and comparative example, there are two variables that are changed. One is the catalyst, which is changed from platinum to rhodium. The second is the amine, where one is primary and the other is secondary. It is therefore not known whether the catalyst of the amine itself accounts for the difference in reactivity.

In addition, the examiner notes that the reaction conditions set forth in Chu are very different from the reaction conditions set forth in the comparative example of the present application for two reasons. One is the temperature of the reactions in the Chu reference are much higher than those in the example conducted by applicant. The other is the presence of pressure in the reactions conducted by Chu. Chu assigns great importance to these reaction conditions to increase the efficacy of the platinum catalyst.

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There is no reason for one of ordinary skill in the art to believe that the reactions of secondary methallylamines with hydridosilanes would not work under the reaction conditions of Chu even if aware of the comparative example set forth by applicant. This is because the reaction conditions are so different and because of the importance that Chu assigns to higher initial temperature and pressure. Chu also lists methallylamine as a preferred amine to perform the hydrosilylation, and shows an example of a secondary amine. For these reasons, the examiner finds applicant's arguments unpersuasive.

### ***Conclusion***

5. This action is made non-final due to the new grounds of rejection set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (703) 306-5929. The examiner can normally be reached on Mon-Fri 7:00-3:00.

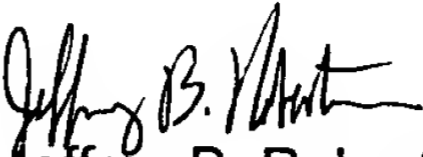
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Dawson can be reached on (703) 308-2340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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Jeffrey B. Robertson  
Primary Examiner  
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JBR